WHAT IS CLAIMED IS:

1. A composition for enhancing the production of IFNα in an animal comprising:
   (a) a liposome;
   (b) at least one A-type CpG;
   wherein said A-type CpG (b) is bound to said liposome (a);

2. The composition of claim 1, wherein said at least one A-type CpG comprises at least one CpG motif, wherein the nucleotides of said at least one CpG motif are composed of phosphodiester nucleotides.

3. The composition of any one of claims 1 or 2, wherein said at least one A-type CpG comprises poly G motifs at the 5' and 3' ends, preferably wherein said G nucleotides are phosphodiester nucleotides.

4. The composition of any one of the preceding claims, wherein said at least one A-type CpG comprises the sequence 5' R_1Y_1-CG-R_2Y_2 3', and wherein R_1, R_2, Y_1, and Y_2 are any nucleotide.

5. The composition of any one of claims 1 to 3, wherein said at least one A-type CpG comprises the sequence 5' R_1Y_1CG R_2Y_2 3' or 5' R_1Y_1CG Y_2 R_2 3', or preferably 5' R_1R_2CG R_3Y_1CG Y_2 Y_3 3', and wherein R_1, R_2, or R_3 is A or G, and Y_1, Y_2, or Y_3 is C or T.

6. The composition of any one of the preceding claims, wherein said A-type CpG comprises 20 to 300 nucleotides, preferably 20 to 100 nucleotides, and even more preferably 20 to 40 nucleotides.

7. The composition of any one of the preceding claims, wherein said A-type CpG, is selected from
   (a) a recombinant oligonucleotide;
   (b) a genomic oligonucleotide;

(c) a synthetic oligonucleotide;

(d) a plasmid-derived oligonucleotide;

(e) a PCR product;

(f) a single-stranded oligonucleotide; and

(g) a double-stranded oligonucleotide.

8. The composition of any one of the preceding claims, wherein said at least one A-type CpG comprises, or alternatively consists essentially of, or alternatively consists of a palindromic sequence..

9. The composition of claim 8, wherein said palindromic sequence comprises, or alternatively consists essentially of, or alternatively consists of GACGATCGTC (SEQ ID NO: 16).

10. The composition of claim 9, wherein said palindromic sequence is flanked at its 5'-terminus by at least 3 and at most 10 guanosine entities and wherein said palindromic sequence is flanked at its 3'-terminus by at least 6 and at most 10 guanosine entities..

11. The composition of claim 10, wherein said A-type CpG has a nucleic acid sequence selected from

(a) GGGGACGATCGTCGGGGGG (SEQ ID NO: 6);

(b) GGGGGACGATCGTCGGGGGG (SEQ ID NO: 7);

(c) GGGGGGACGATCGTCGGGGGG (SEQ ID NO: 8);

(d) GGGGGGGACGATCGTCGGGGGG (SEQ ID NO: 9);

(e) GGGGGGGGACGATCGTCGGGGGGG (SEQ ID NO:10);

(f) GGGGGGGGGACGATCGTCGGGGGGGG (SEQ ID NO: 11);

(g) GGGGGGGGGGACGATCGTCGGGGGGGGG (SEQ ID NO: 12);

(h) GGGGGGCGACGACGATCGTCGTCGGGGGGG (SEQ ID NO: 5); and

(i) GGGGGGGGGGGACGATCGTCGGGGGGGGGG (SEQ ID NO: 3)

12. The composition of claim 9, wherein said at least one A-type CpG has a nucleic acid sequence of SEQ ID NO: 3.

13. The composition of any one of the preceding claims, wherein said liposome is selected from the group of:

(a) neutral,

(b) anionic,

(c) cationic,

(d) stealth,

(e) cationic stealth.

14. The composition of any one of the preceding claims, wherein said liposome is a cationic liposome.

15. A method for enhancing the production of IFNα in an animal, said method comprising introducing into said animal a composition of any one of the preceding claims.

16. The method of claim 15, wherein said animal is a mammal, preferably a human.

17. The method of any one of claims 15 to 16, wherein said composition is introduced into said animal subcutaneously, intramuscularly, intravenously, intranasally, directly into the lymph node or locally into onto or close to a tumor.

18. A vaccine comprising an immunologically effective amount of the composition of any one of claims 1 to 14 together with a pharmaceutically acceptable diluent, carrier or excipient.

19. The vaccine of claim 18, further comprising an adjuvant.

20. A method of immunizing or treating an animal comprising administering to said animal an immunologically effective amount of the vaccine of claim 18 or 19.

21. The method of claim 20, wherein said animal is a mammal, preferably a human.

22. Use of a composition according to any one of claims 1 to 14 or use of a vaccine according to claim 18 or 19 in the manufacture of a pharmaceutical for the treatment of a disorder or disease selected from the group consisting of cancer and infectious diseases.